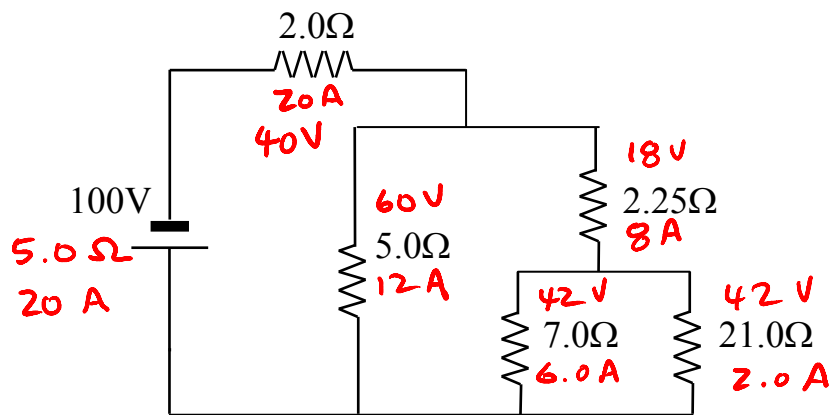
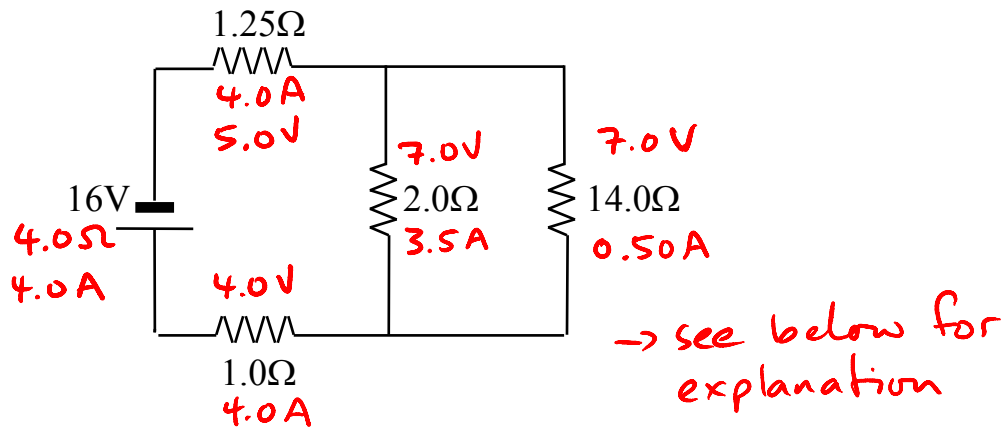


Example #12: Calculate all unknown voltages, currents and resistances for the following circuits:



For circuit 1:

\rightarrow find R_o , then I_o

\rightarrow current through 1.25Ω , 1.0Ω resistors is the same as the battery, so use $V = IR$ to find voltage drops in those resistors

\rightarrow finally, use Kirchhoff's Voltage rule to find voltage drop across 2.0Ω , 14Ω resistors, then $I = \frac{V}{R}$ to find current flow in those resistors.

For circuit 2:

- Find R_0 , then I_0
- current across 2.0Ω resistor = I_0 for battery, so use $V = IR$ to find voltage drop in this resistor
- use Kirchhoff Voltage rule to find drop in 5.0Ω resistor, then find current in this resistor
- use Kirchhoff Current rule to find current flow in 2.25Ω resistor, then $V = IR$ to find voltage in this resistor
- finally, use Kirchhoff Voltage rule to find missing drops in each of 7Ω , 21Ω resistor, and Ohm's Law to find current in each resistor //